

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A process for producing a sintered aluminum nitride furnished with via holes, comprising providing an aluminum nitride molding having through-holes for via hole formation and through-holes for formation of dummy via holes not used for electrical connection, wherein the through-holes for formation of dummy via holes are distributed within the aluminum nitride molding, filling the through-holes for via hole formation and the through-holes for dummy via hole formation with a conductive paste and firing the aluminum nitride molding and conductive paste,

wherein the aluminum nitride molding is furnished with the through-holes for via hole formation and the through-holes for dummy via hole formation so that the through-holes for via hole formation having been filled with the conductive paste and the aluminum nitride molding respectively exhibit a firing shrinkage factor of the through-hole for via hole formation (X_v , %) and a firing shrinkage factor of the aluminum nitride molding (X_s , %) whose difference, $X_v - X_s$, is in the range of -1.0 to 9.5%.

2. (Currently Amended) A process for producing a sintered aluminum nitride furnished with via holes, comprising providing an aluminum nitride molding having through-holes for via hole formation and through-holes for formation of dummy via holes not used for electrical connection, wherein the through-holes for formation of dummy via holes are distributed within the aluminum nitride molding, filling the through-holes for via hole formation and the through-holes for dummy via hole formation with a conductive paste and firing the aluminum nitride molding and conductive paste,

~~wherein at least one of the through-holes for via hole formation is in such a highly isolated state that, therearound, other through-holes for via hole formation are not densely present, and wherein at least one of the through-holes for dummy via hole formation is formed around the through-hole for via hole formation of said highly isolated state~~

wherein at least one of the through-holes for via hole formation is in a highly isolated state whereby the through-hole for via hole formation in said highly isolated state comprises the other through-holes for via hole formation and the through-holes for formation of dummy via holes, wherein at least one of the through-holes for formation of dummy via holes is formed around the through-hole for via hole formation in said highly isolated state, and

wherein the through-hole for via hole formation in said highly isolated state has a volume of 0.9% or less of the other through-holes for via hole formation and a volume of 1-6% of the other through-holes for via hole formation and through-holes for formation of dummy via hole formation in an area of 5.0 mm radius from a center of the through-hole for via hole formation of said highly isolated state.

Claims 3-4 (canceled)

5. (Previously Presented) The process as claimed in claim 1, wherein through-holes for dummy via hole formation are formed in a scrap zone within the sintered aluminum nitride.

6. (Original) The process as claimed in claim 5, wherein, after the firing, the scrap zone is cut off from the sintered aluminum nitride.

7. (Previously Presented) The process as claimed in claim 1, wherein a composition comprising 100 parts by weight of a refractory metal, 2 to 10 parts by weight of powdery aluminum nitride and 2 to 9 parts by weight of an organic vehicle is used as the conductive paste.

8. (Original) The process as claimed in claim 7, wherein the aluminum nitride molding, after the filling of the through-holes for via hole formation and through-holes for dummy via hole formation with the conductive paste, is dewaxed so that the aluminum nitride molding exhibits an internal residual carbon ratio of 800 to 3000 ppm, then fired at 1200 to 1700°C and further fired at 1800 to 1950°C.

9. (Previously Presented) The process as claimed in claim 2, wherein through-holes for dummy via hole formation are formed in a scrap zone within the sintered aluminum nitride.

Claims 10-11 (canceled)

12. (Previously Presented) The process as claimed in claim 9, wherein, after the firing, the scrap zone is cut off from the sintered aluminum nitride.

13. (Previously Presented) The process as claimed in claim 2, wherein a composition comprising 100 parts by weight of a refractory metal, 2 to 10 parts by weight of powdery aluminum nitride and 2 to 9 parts by weight of an organic vehicle is used as the conductive paste.

14. (Previously Presented) The process as claimed in claim 13, wherein the aluminum nitride molding, after the filling of the through-holes for via hole formation and through-holes for dummy via hole formation with the conductive paste, is dewaxed so that the aluminum nitride molding exhibits an internal residual carbon ratio of 800 to 3000 ppm, then fired at 1200 to 1700°C and further fired at 1800 to 1950°C.